## ABSTRACT OF THE DISCLOSURE

**[00254]** A system and method is provided that employs a frequency domain interpolative CODEC system for low bit rate coding of speech which comprises a linear prediction (LP) front end adapted to process an input signal providing LP parameters which are quantized and encoded over predetermined intervals and used to compute a LP residual signal. An open loop pitch estimator adapted to process the LP residual signal, a pitch quantizer, and a pitch interpolator also provides a pitch contour within the predetermined intervals. A voice activity detector adapted to process the LP parameters and the open loop pitch contour over the predetermined intervals is also provided as well as a signal processor responsive to the LP residual signal and the pitch contour and adapted to perform the following functions: extract a prototype waveform (PW) from the LP residual and the open loop pitch contour for a number of equal sub-intervals within the predetermined intervals; normalize the PW by a gain value of the PW; encode a magnitude of the PW; and provide a voicing measure where the voicing measure characterizes a degree of voicing of the input speech signal and is derived from several input parameters that are correlated to degrees of periodicity of the signal over the predetermined intervals. The voicing measure is provided for the purpose of regenerating a PW phase at a decoder; and providing improved quantization of the PW magnitude at an encoder. The voicing measure is encoded jointly with a PW nonstationarity measure vector using a spectrally weighted vector quantizer having a codebook partioned based on a voiced and unvoiced mode.